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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,861	11/05/2001	Michael Persson	ANO 6129 P1US/3159	6497

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EXAMINER	
METZMAIER, DANIEL S	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/007,861	PERSSON ET AL.	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 26-65* is/are pending in the application.

4a) Of the above claim(s) *36-42,54-60,64 and 65* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,26-35,43-53 and 61-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *1027/2006* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 26-65, and 73-91 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 27, 2006 has been entered.

Election/Restrictions

2. This application contains claims 36-42, 54-60, and 64-65 drawn to an invention nonelected with traverse in Paper filed October 6, 2003.

The requirement is still deemed proper and was made FINAL in the Office Action mailed February 3, 2004. Applicants have taken no further action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 26-35, 43-53, 61-63, and 73-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johanssan et al, 5,368,833, in view of Andersson et al, 5,603,805. Johanssan et al '833 (column 2, line 45, to column 4, line 20) disclose methods of making silica sols.

Johanssan et al '833 (column 2, line 52, to column 3, line 8) discloses the first step of the claimed process, (a) acidifying an aqueous silicate solution to a pH of 1 to 4. Johanssan et al '833 (column 2, lines 65-66) further teaches particle growth and ripening at pH of 8-9 during the acidification process step.

Johanssan et al '833 (column 3, lines 8 et seq) discloses an alkalization step (b) and (d), which is carried out to a pH between 8 and 11 and a SiO_2 to M_2O ratio of 20:1 to 75:1, preferably from about 30:1 to 60:1. Johanssan et al '833 (column 3, lines 25 et seq) discloses the degree of microgel can be influenced by the salt content, adjustment of the SiO_2 dry content in the sol and when the stability minimum for the sol is passed, at a pH of about 5. Johanssan et al '833 (column 3, lines 32-34) discloses: "By prolonged times at this passage the degree of microgel can be directed to the desired value.".

Johanssan et al '833 (column 3, lines 33 et seq) discloses the SiO_2 concentration of 7 to 4.5 and 6.8 to 5.5 and surface areas of 750 to 1000 m^2/g. Johanssan et al '833 (column 3, lines 66) further discloses surface stabilization of the silica sol with aluminum modification, e.g., alkali metal aluminate.

Johanssan et al '833 differs from the claims in employing two alkalization steps to achieve the resulting silica sols.

Andersson et al '805 (column 2, lines 56 et seq) discloses processes similar to the Johanssan et al '833 processes to produce silica sols having a low S-value, e.g., 15-40%, and a specific surface area of 300 to 700 m^2/g, by (a) acidifying an aqueous alkali water glass solution (e.g., sodium silicate, pH ~ 13) to a pH of about 1 to about 4, (b) alkalization to a pH of 7 to 9 to a final SiO_2 to M_2O ratio of 20:1 to 75:1, preferably from about 30:1 to 60:1.

Andersson et al '805 (column 3, lines 48 et seq) teaches:

> "The degree of microgel can be influenced by salt content, by adjustment of the concentration at the preparation of the acid sol and at the alkalization since in this step the degree of microgel is influenced when the stability minimum for the sol is passed, at a pH of about 5. By prolonged times at this passage the degree of microgel can be directed to the desired value."

Andersson et al '805 (column 3, lines 48 et seq) further teaches:

> "Another suitable way to control the degree of microgel is by adjustment of the alkalization to a certain pH and the above given pH values to which the alkalization is carried out controls the S-values to lower values at a lower pH. To obtain sols with S-values within the range 15 to 40% the pH at the alkalization is suitably controlled to the range 7.5 to 8.5." (Emphasis added).

Andersson et al '805 (column 3, lines 67) further discloses surface stabilization of the silica sol with aluminum modification, e.g., alkali metal aluminate. Furthermore, Andersson et al '805 (column 3, lines 57 et seq) further teaches heat treating up to 95° C for about a half hour up to about 24 hours to achieve the desired degree of microgel formation and specific surface area.

These references are combinable since they teach similar processes for making silica sols having application as paper making additives. It would have been obvious to one having ordinary skill in the art at the time of applicants' invention to vary the pH to values of greater than 7, e.g., 7.5 to 8.5, taught in Andersson et al '805 for the advantage of obtaining a desired degree of microgel formation and specific surface area for a time period and temperature suitable therefore, and to work within the pH ranges by additional alkalization of the silica sol within the pH ranges taught in the Johanssan et al '833 reference.

Merely modifying the process conditions such as temperature, concentration, and pH is not a patentable modification absent a showing of criticality for a result-effective variable, i.e., a variable that achieves a recognized result.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 26-35, 43-53, 61-63, and 73-91 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM